Oral Health

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Arkansas

Preventing Tooth Decay by Strengthening the Community Water Fluoridation Program

Public Health Problem

Dental caries (i.e., tooth decay) is a multi-factor disease that affects 50 percent of children aged 5-9 years, 67 percent of adolescents aged 12-17 years, and 94 percent of adults aged >18 years in the United States. During the second half of the 20th century, a major decline in the prevalence and severity of dental caries resulted from the use of fluoride to prevent caries. Fluoridation of the public water supply is the most equitable, cost-effective, and cost-saving method of delivering fluoride to a community. In 2002, approximately 170 million persons in the United States (67 percent of the population served by public water systems) received optimally fluoridated water.

Water fluoridation, which is adjusting the natural fluoride level in drinking water to the right level to prevent tooth decay, has been shown to be effective both in adults and children. In 2001, two major reports reaffirmed the effectiveness of water fluoridation. The U.S. Task Force on Community Preventive Services reviewed the scientific evidence of effectiveness and issued a strong recommendation for water fluoridation. Another work group of fluoride experts convened by CDC concluded that water fluoridation be continued and extended to additional communities.

Taking Action

Arkansas has made significant progress in advancing community water fluoridation with a cooperative agreement from CDC. In 1999, prior to receiving CDC support, Arkansas had a one-person state oral health program, and only 49 percent of the state's population was receiving the benefits of water fluoridation. The state lacked the resources to regularly monitor fluoridation systems at the state level and provided limited community water fluoridation training, promotion, and education. With the help of the CDC funding, Arkansas now monitors its fluoridation systems monthly using the Water Fluoridation Reporting System (WFRS) and has improved coordination within state government. Training is being provided to water plant operators, and a state-wide community educational campaign on water fluoridation has been launched. Called "Got teeth? Get fluoride!" the campaign was developed to encourage additional communities to consider implementing water fluoridation. Through these efforts, 62 percent of the Arkansas population on community water systems now receive the benefits of community water fluoridation. Arkansas, through CDC funding, also is strengthening its capacity to monitor oral diseases, develop and implement a state oral health plan, and develop additional collaborative partnerships through an oral health coalition.

Implications and Impact

Water fluoridation is the most cost-effective way to use fluoride to protect populations from dental decay. This program demonstrates the importance of increasing access to fluoridated water as an effective means of decreasing tooth decay and its related pain and suffering, costs for treatment, and lost school and work days.

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Nevada

Reaching Children Through School-based Dental Sealant Programs to Prevent Tooth Decay

Public Health Problem

Tooth decay (cavities) has declined dramatically among school-aged children due to preventive strategies such as community water fluoridation and use of fluoride toothpastes and mouth rinses. Despite these gains, tooth decay remains a significant problem with disparities noted for poor children and those of some racial and ethnic groups. In the United States, 52 percent of children between the ages of 5 and 9 have had a cavity. Only 23 percent of all 8-year-olds in the United States have at least one dental sealant, and only 3 percent of 8-year-olds racial minorities living in poverty have a dental sealant.

Dental sealants, a plastic coating placed in the pits and grooves of molar teeth, have been proven to prevent dental cavities on these chewing surfaces. The U.S. Task Force on Community Preventive Services has reviewed the scientific evidence of effectiveness of school-based and -linked dental sealant programs, which demonstrates a reduction in dental cavities of 60 percent. The Task Force issued a strong recommendation for school-based sealant delivery programs.

Taking Action

Nevada has made significant progress in implementing school-based/-linked dental sealant programs. With a cooperative agreement from CDC, Nevada has funded vital state oral health program infrastructure, including a state sealant program coordinator and state oral health program manager. In one effort, the state has targeted dental sealant programs to schools in low-income areas. It identified 128 of 321 elementary schools statewide as eligible; 29 percent of the eligible schools now have a school-based or school-linked sealant program. During the 2003-2004 school year, 3,677 sealants were provided for 1,211 second grade schoolchildren.

A major milestone was recently reached by the Oral Health Program in developing and signing a Memorandum of Understanding with the Clark County School District to implement a school-based dental sealant program (60 percent of the eligible schools and 70 percent of Nevada's population are located in Clark County).

Implications and Impact

The agreement opens the path for establishing new sealant programs in Clark county soon. Included in the Clark County partnership is the new University of Las Vegas School of Dental Medicine. Capitalizing on this increase in infrastructure, Nevada also is strengthening its capacity to monitor oral disease, plan and evaluate state programs, extend water fluoridation, and strengthen its coalitions and partnerships.

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